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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER

BOAKYE, ALEXANDER O

ART UNIT PAPER NUMBER

2667

DATE MAILED: 06/02/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/584,539

Applicant(s)

CAO, CARL F.

Examiner

Alexander Boakye

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 16 March 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-23 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 14-20 and 23 is/are allowed.
- 6) ☒ Claim(s) 1-5, 12, 13, 21 and 22 is/are rejected.
- 7) ☒ Claim(s) 6-8, 10 and 11 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ | 6) <input type="checkbox"/> Other: _____ |

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 2, 3, 4, 5, 12, 13, 21 and 22 are rejected under 35 U.S.C. 102(b) as being anticipated by Gupta et al. (Impacts of Handoff on TCP Performance in Mobile Wireless Computing).

Regarding claims 1, 12, 13, 21 and 22, Gupta discloses a method implemented by a wireless network (the claimed wireless network reads on base stations of Fig. 3) for a TCP connection between a transmitting host (the claimed transmitting host reads on FH of Fig. 3) and a receiving host (the claimed receiving host reads on MH, of Fig. 3) and a wireless receiving host (MH, Fig. 3) served by the wireless network (base stations of Fig. 3), the method comprising: the wireless network (base stations of Fig. 3) determining when the wireless receiving host (the wireless receiving Host is the mobile host) is in handoff (Page 184, first column, paragraph 1, 2 and 3) ; the wireless network (base station of Fig. 3) determining when the wireless receiving host is no longer in handoff (Page 186, first column, paragraph 1); the wireless network notifying the transmitting host when the wireless receiving host is in handoff and when the wireless receiving host is no longer in handoff (Page 187, second column, paragraph three).

Regarding claim 2, Gupta discloses that a physical layer protocol (Page 187, second column, paragraph 4 ; the claimed physical layer protocol reads on wired link) determines when the wireless receiving host is in handoff and when the wireless receiving host is no longer in hand off (Page 187, second column, paragraph three).

Regarding claim 3, Gupta discloses the wireless network (base stations of Fig. 3 reads on the claimed wireless network) receiving packets over the TCP connection from the transmitting host (FH, Fig. 3); while the wireless receiving host (MH, Fig. 3) is in handoff, the wireless network buffering the packets received over the TCP connection (Page 187, first column, paragraphs 1, 2, 3 and 4 respectively); after the wireless receiving host is no longer in handoff, the wireless network transmitting the buffered packets to the wireless receiving host (Page 188, first column, paragraph 1).

Regarding claim 4, Gupta discloses that the wireless network notifying the transmitting host when the wireless receiving host is in handoff (Page 187, second column, paragraphs 2 and 3) and when the wireless receiving host is no longer in handoff is done using acknowledgement packets (Page 187, second column, paragraphs 1 and 2).

Regarding claim 5, Gupta discloses that the wireless network notifying the transmitting host when the wireless receiving host is in handoff (Page 187, first column, paragraph two to column 2, paragraphs 1, 2 and 3 respectively) and when the wireless receiving host is no longer in handoff using acknowledgement packets comprises: the wireless network (base stations of Fig. 3 reads on the claimed wireless network) receiving acknowledgement packets from wireless receiving host in respect of the TCP

connection (Page 187, second column, Paragraphs 1 and 2) ; the wireless network including an indication in at least one acknowledgement packet of whether the wireless receiving host is in handoff (Page 187, second column, paragraphs 2 and 3 respectively); the wireless network transmitting the acknowledgement packets (Page 187, first column, paragraph 3) to the transmitting host.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Gupta et al.(Impacts of Handoff on TCP Performance in Mobile Wireless Computing) in view of Connery et al.(US Patent # 5,937,169).

Regarding claim 9, Gupta discloses wherein notifying the transmitting host when the wireless receiving host is in handoff and when the wireless receiving host is no longer in handoff using acknowledgement packets (Page 187, first column, paragraph two- column 2, paragraphs 1, 2 and 3 respectively). What Gupta does not disclose is using a TCP flag in the acknowledgement packets. However, Connery teaches using a TCP flag in the acknowledgement packets (column 14, lines 57-59; see Fig. 4). One of ordinary skill in the art would have been motivated to incorporate a TCP flag in the acknowledgment packet in the communication network of Gupta in order to improve

performance. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate a TCP flag in the acknowledgement packet such as the one taught by Connery in the communication network of Gupta with the motivation being that it provides reliability, system performance improvement and efficiency.

Allowable Subject Matter

Claims 6, 7, 8, 10, 11 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Claims 14-20 and 23 are allowable.

The following is a statement of reasons for the indication of allowable subject matter: As to claims 14-20, the prior art of record does not teach the transmitting host behaving in a first manner while the wireless receiving host is not in handoff. As to claim 23, the prior art of record does not teach means for determining when the wireless receiving host is in handoff; means for determining when the wireless receiving host is no longer in handoff.

Response to Arguments

Applicant's arguments filed 03/16/04 have been fully considered but they are not persuasive.

A) At page 1, in claims 1, 14, and 23, applicant argued that the pages relied on by the examiner do not disclose notifying the transmitting host when the wireless receiving host is in handoff and when the wireless receiving host is no longer in handoff.

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B) In response, the examiner maintains that in claim 1, Gupta discloses notifying the transmitting host when the wireless receiving host is in handoff (Page 184, first column, paragraphs 1, 2 and 3 respectively) and when the wireless receiving host is no longer in handoff (Page 187, second column, paragraph 3).

C) At page 3, in claim 5, applicant argued that claim 5, recites "the wireless network including an indication in at least one acknowledgement packet of whether the wireless receiving host is in handoff or no longer in handoff", the applicant argued that this feature is not disclose in Gupta et al.

D) In response, the examiner maintains that Gupta discloses the wireless network (base stations of Fig. 3) including an indication in at least one acknowledgement packet of whether the wireless receiving host is in handoff (Page 187, second column, paragraphs 2 and 3 respectively).

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Conclusion


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alexander Boakye whose telephone number is (703) 308-9554. The examiner can normally be reached on M-F from 8:30am to 6:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chi Pham, can be reached on (703) 305-4378. The fax number is (703) 872-9306. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the group receptionist whose telephone number is (703) 305-4750.

Alexander Boakye

Patent Examiner

AB
11/25/03


CHI PHAM
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